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April 11, 1974

State of Washington Department of Ecology



Memo to: John Arnquist

From:

Darrel Anderson MA

Subject: Granger STP Efficiency Survey.

On February 27, 1974, I conducted an efficiency survey at the City of Granger sewage treatment plant. Security at the plant is very good, housekeeping was very poor. A safety hazard exists at the east side of the grit chamber and Parshall Flume where a hand railing is missing - distance to the ground is about 20 feet. The clarifier needs to be cleaned out and repaired because a short circuit exists at the sludge and scum box. The 5 day BOD reduction is 87%, COD 73% and fecal coliform colonies are at <10/100 mls.

Sampling frequency was every 1/2 hour for seven hours with 800 ml per 1/2 hour influent and effluent.

DA: jmh

STP Survey Report Form

Efficiency Study

City_Granger	Plant Type Tric Filt	ckling Po	p. Served_	$\frac{1,567}{C}$	sign <u>Unk</u>	cnown
Receiving Water Ya				~ ~ ~	APACILY	
Date 2-27-74 Sur	vey Period 090	00-1600	_ Survey P	ersonnel D.	Andersor	<u>1</u>
Comp. Sampling Free	quency 1/2 hou	<u>ır</u> Samp	ling Alequ	ot <u>800 ml</u>	rences and assessment and the first the street in the street and the	
Weather Conditions	(24 <u>hr)Clear-c</u>	cold Are	facilities	provided for	complet	te by-
pass of raw sewage	? <u> </u>	No/Frequency	uency of b	ypass unk) L	rescurios de e e e e e e e e e e e e e e e e e e
Reason for bypass_		Is by	ypass chlo	rinated? _x	Yes	No
Was DOE Notified?	Dischar	ge - Inter	cmittent_	Contin	uous	
		t Operation			Various agree up w	
Total flow .12 MC	<u>3D</u>	How mea	asured	<mark>6" Parshall F</mark>	<u>lume</u>	
Maximum flow .13 MC	<u>3D</u>	Time of	f Max	1200 hr.		
Minimum flow .07 MG						
Pre Cl ₂ 0						
-						
	Fiel	d Results				
	Infl	uent		Effl	uent	
Determinations	Max. Min.	Mean	Median	Max. Min.	Mean	Median
Temp °C	14.0 12.0 8.4 7.4		13.0	11.0 9.0 7.6 7.3		11.0
pH (Units) Conductivity	1150 1000		COOK MICH WAS	1100 950		
(µmhos/cm²) Settleable						
Solids (mls/1)	27.0 5.0	10.1	7.5	7.1 Trace		more various Access
	Laboratory Re	sults on C	Composites			
	Influent	Efflu	ient	% Reducti	on	
Laboratory No.	74-592	74-59	3			
5-Day BOD ppm	223 630	-	30	86 %	indelensateren (de	
COD ppm T.S. ppm	719	17 51		73% 29%		
T.N.V.S. ppm	404	36	0	11%		
T.S.S. ppm	362		⁷ 5 8	80%	Montanique.	
N.V.S.S. ppm pH (Units)	70		7.6	848	lage-integring)	
Conductivity			- Lagrania Calanda (Calanda Calanda Ca			
(µmhos/cm²) Turbidity(JTU's)	880	8 2 ************************************	10 55			

Laboratory Bacteriological Results

Lab No.	Sampling	•	lonies/100 m		Cl ₂ Residual	
	Time	Total	Fecal	Fecal	7	
		Coliform	Coliform	Strep	15 sec	3 min
74-594	0900	140*	<10		0.2	0.5
595	1000	100*	10*		0.2	0.5
596	1100	120*	10*		0.15	0.3
597	1300	240*	< 1.0		0.15	0.4
598	1400	40*	<10		0.15	0.3
599	1500	160*	<10		0.2	0.5
		*Estimat	ed			

Additional Laboratory Results

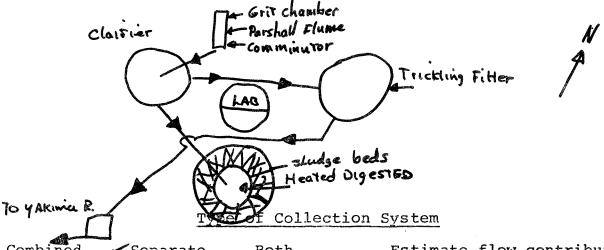
NO ₃ -N ppm85	
NO2-N ppm05	
NH3-N ppm - 17.5	
T. Kjeldahl-N ppm - 23.7	
O-PO4-P ppm - 9.70	
T-PO ₄ -P ppm - 9.90	

Phone No. 854-3627

Furnish a flow diagram with sequence and relative size and points of

Operator's Name Joe Salinas

chlorination.



Committee Both	face or ground water (in	••
	unk	MGD
Plant Loading In	nformation	
Annual average daily flow rate(mgd)	Peak flow rate(mgd)	
Dry	Dry	
Wet	Wet	
COMMENTS:		

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

ORIGINAL TO: ANDERSON.

WATER QUALITY LABORATORY

			DATA	SUMMA	ARY					LAB FI	LES
Source <u>GRANGER S</u>	TP	_				Co	llecte	d By	D. F.		RSQN
Source <u>GRANGER S</u> Date Collected 2/27/	74	_						o./Obj			
			594	595	, 596	597	598	. 599			STORET
Log Number: 74 Station:	LNF	EFF	EFF 0900	1000	1100	1300	1400	1500			
oH	1	7-6	1								00403
Turbidity (JTU)	120	35	ļ								00070
Conductivity (umhos/cm)@250	880	820									00095
COD	630	174									00340
30D (5 day)	223	30							•		00310
Cotal Coliform (Col./100ml)			140	100	120	240	40	160			31504
ecal Coliform (Col./100ml)			<u>≺)0</u>	10*	10*	<10	<10	<10			31616
103-N (Filtered)		-85									00620
02-N (Filtered)		.05								<u> </u>	00615
H3-N (Unfiltered)		17.5		-							00610
. Kjeldahl-N (Unfiltered)	-	23.7									00625
-PO4-P (Filtered)		9.70									00671
otal PhosP (Unfiltered)		9.90									00665
otal Solids	7/9	513							·		00500
	404						-				
otal Suspended Solids	362	75									00530
otal Sus. Non Vol. Solids	70	_8_									
111	l										
ote: All results are in PI Convert those marked	M unle with a	ess oth a * to	erwise PPB (I	speci PPM X 1	fied. 10 ³) pr	ND is	'None entry	Detec into	ted" STORE	 Т	

* ESTIMATED

U.S. DEPARTMENT OF THE INTERIOR FEDULAL WATER POLLETION CONTROL ADMINISTRATION

FORM APPROVED BUDGET BUREAU NO. 45-81527

SEWAGE TREATMENT PLANT OPERATION AND MAINTENANCE PRACTICES OUESTIONNAIRE CHECK ONL DATE OF AUDIT PLANT DESCRIPTION CODE (For Official Use Only) 2-27-74 1ST AUDIT RELAUDIT A. GENERAL INFORMATION 1. PHOJECT (State, Number) SCOPE OF PROJECT (new plant, additions, etc.) GRANGEOR DENTIFICATION OF AREAS SERVED 2. PLANT LOCATION (City, county) cite 3 POPULATION 3A. PRACTION OF AREA POPULATION SERVED (%) 3C. SERVED BY PLANT (domestic) 3B. PLANT DESIGN (population equivalent) 1567 100 4. TYPE OF COLLECTION SYSTEM 48. ESTIMATES FLOW CONTRIBUTED BY SURFACE OR GROUND WATER (infiltration, mgd) 44. COMBINED H SEPARATE Пвотн Problem NO S.YEAR COMMUNITY BEGAN SEWAGE TREATMENT 6. YEAR PRESENT SYSTEM PLACED IN OPERATION 6A. SEWER 6C. ANCILLARY WORKS 195R 1952 1952 7A. SIZE OF PLANT SITE (neres) TB. APPROXIMATE AREA LEFT FOR EXPANSION (acres) . FLOW SECURICE INCLUDE THE METHOD OF ULTIMATE SLUDGE DISPOSAL, SHOW APPROXIMATE SURFACE AREA OF STABILIZATION FONDS AND NOMBER OF CELLS. INDICATE WHETHER FLOW TO AND FROM PLANT IS BY PUMPING OR GRAVITY. Parshall Elume comminutor SIARIFIER tricking Filter LAB Pump Mad DIEFFIED TO RIVER ANY SIGNIFICANT OR UNIQUE PROCESSING CONDITIONS. 9. RECEIVING STREAM 9A. NAME OF STREAM RIVER YAKima 98. STREAM FLON IS INTRASTATE [] INTERSTATE LINTERMITTENT T NATURAL REGULATED T COASTAL MPERENNIAL B. CURRENT PERFORMANCE AND PLANT LOADING INFORMATION TA. ANNUAL AVERAGE DAILY FLOW RATE 19. PEAR FLOW RATE (mid) IC. MINIMUM FLOW RATE (MIU) DRY WEATHER WET WEATHER 127 TEPD Z. AVERAGE BOD OF RAN SENAGE (5 DAY 27 C) (ppm) 3. AVERAGE SETTLEABLE SOLIDS OF HAN SENAS . (MICH) (ml, l) 4. AVERAGE SUSPENDED SELIDS OF RAW SENAGE (MILE!) S. AVERAGE COLIFORN DENSITY OF HAN SCHAGE TOPR THE WAY 5. ANNUAL AVERAGE PLANT PEDUCTION "

16 3. 3038 10 10 10 10 10 1 15 1

HB. SETTLEABLE SOLIDS IN

55. COLIT SAM 28 45 67

6A. 800 151

74. DOES PLANT HAVE STANDBY POWER GENERATOR FOR MAJOR PUMPING FACILITIES? [] YES [Z] A	70. ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES? TYES THO
B. ARE CHLORINATION FACILITIES PROVIDED! LYES LIFYES LIFYES, ANSWER BA THRU G	NO IF YES, IS CHLORINATION CONTINUIUST THEY'S TO NO IF NO, EXPLAIN REASON FOR INTERMITTENT CHLORINATION
BA PURPOSE OF CHLORINATION	
DISIN FECTION	
BD. TYPE OF CHLORINATOR ,	
WALLACE & TIERMAN	
BC. POINT OF APPLICATION OF CHLORINE	BD. CAN BYPASSED SEWAGE BE CHLORINATED!
AFTER TRICKING FILTER	TYES NO
BE. AVERAGE FEED RATE OF CHLOHINE (1b/day)	BF. CHLORINE RESIDUAL IN EFFLUENT
8	PPM AT END OFMINUTES
66. MINIMUM SUPPLY OF CHLORINE STORED ON PREMISES (16)	
3 Cylinders 9. ARE FACILITIES PROVIDED FOR COMPLETE BYPASS OF RAW	N SCWACCT
	THRU G BELOW, ANSWER H IN EITHER CASE.
9A. FREQUENCY (times monthly) 9B. AVERAGE DUI	
9D. ESTIMATED FLOW RATE DURING BYPASS IS	9E. DOES SEWAGE OVERFLOW IN DRY WEATHER?
WITHIN HYDRAULIC CAPACITY OF PLANT	
BEYOND HYDRAULIC CAPACITY OF PLANT BY	YES NO
F. TYPE OF DIVERSION STRUCTURE	9G. AGENCIES NOTIFIED OF BYPASS ACTION .
9H. DO OPERATORS HAVE OPTION TO BYPASS INDIVIDUAL PLA	NT UNITS? (II no; has this caused any operational problems?)
YES NO	
10A. ARE BACK FLOW DEVICES PROVICED AT ALL CONNECTION	NS TO CITY WATER SUPPLY? (If no, explain)
YES NO	
108. CHECK TYPE OF BACK FLOW PREVENTION DEVICE	
DOUBLE CHECK VALVE PRESSURE OPERATED	D PHYSICAL DISCONNECT OTHER(specily)
	,
II. USES OF TREATMENT PLANT EFFLUENT	
12. USES OF RECEIVING STREAM WITHIN 10 MILES OF OUTFALL	
13. HAVE THERE BEEN ANY ODOR COMPLAINTS BEYOND THE P	PLANT PROPERTY! (Il yes, explain)
YES NO	
14. OBSERVED APPEARANCE AND CONDITION OF EFFLUENT, R	ECCIVING STREAM, OR DRAINAGE WAY

15. \$1 AUGUZATIOTE COGOS	
A. WELDS CUT AND VEGETATIVE GROWTH IN PONDS ELIMINATED?	D. BANKS AND DIKES MAINTAINED (COUSIUM CIC.)?
[YES [] NO	YES NO
C. LUICING AND "CARRING - POLLUTED WATER" SIGNS PRESENT AND IN GOOD REPAIR?	U. FREQUENCY OF INSPECTION BY OPERATOR
TYES NO	
E. WATER DEPTH (leet)	
HIGH LO.W	MEDIUM
F. ADEQUATE CONTROL OF DEPTH!	G. SEEPAGE REPORTED
TES NO	YES NO
TI. ANY HEPORTS OF CHOUND WATER CONTAMINATION FROM POND	ill yes, give details)?
[] (in [] ma	
1.MOSQUITO BREEDING IF YES, NAME OF SPECIES IF	J. CAN SURFACE RUN-OFF ENTER POND!
PROBLEM? KNOWN	YES NO
C. SUPERVISORY S	ERVICES
1. IS A CONSULTING ENGINEER RETAINED OR AVAILABLE FOR CONS	SULTATION ON OPERATING AND MAINTENANCE PROBLEMS?
TYES THO IF YES IS IT ON: CONTINUING BA	SIS OR UPON REQUEST BASIS
Grand Grand	
IF CONTINUING DASIS, WHAT IS THE FREQUENCY OF VISITS:	
2. DO OPERATORS AND OTHER PERSONNEL ROUTINELY ATTEND SHO	ORT COURSES, SCHOOLS OR OTHER TRAINING ACTIVITIES?
YES NO	
IF YES, CITE COURSE SPONSOR AND DATE OF LAST COURSE AT	TTENDED
MAIRCH 73	
IF NO. DO YOU KNOW OF ANY COURSES AVAILABLE TO SERVE T	THIS AREA?
3A. ARE ALL EQUIPMENT AND PARTS OF THE PRESENT PLANT STIL	L IN OPERATION! VES NO (Il no, explain)
B. ARE PROCESSING UNITS OPERATING AT DESIGN EFFICIENCY?	YES NO (II no, explain)
4. HAVE THERE BEEN ANY DIFFICULTIES WITH THE SEWAGE TREAT	MENT PLANT?
A. STRUCTURAL YES NO (II yes explain)	
B. MECHANICAL YES NO (11 yes, explain)	
C. OPERATIONAL YES NO (II yes, explain)	
D. BASED ON OPERATING EXPERIENCE TO DATE WHAT IF ANYCHANG	GES WOULD YOU RECOMMEND TO IMPROVE OPERATION
OF THE PLANT?	

C	 111		300	·VC	OM:	TROL
с.	 · () (31:01			0,1	IRUL

Enter test codes epposite appropriate items. If any of the below tests are used to monitor industrial wastes place an "X" in addition to the test code.

CODES

1 - 7 or more per week

3 - 1, 2, or 3 per week 5 - 2 or 3 per month

7 - Quarterly 9 - Annually

2 - 4, 5 or 6 per week 4 - as required

6 - 1 per month

8 - Semi-Annually

					Semi-		-	
P.	: YAANIN	MINEC	E13141	S			1	RECEIVE
HAW	FLUENT	LIQUOF	FINAL	RAW	N	ATANT	DIGESTOR	STREA
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F. OP	ÉRATION A	HIAN DN	TENANCE COST	FOR PLANT		; ———	7	
AL ARIES/WAGES	ELECTR	ICITY	CHEMICALS	MAINTENA	NCE	OTHER	ITEMS	TOTAL
	-							
					·			
								-
RMED BY			TITLE		i	ORGANIZATION		วน -
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YE CBW		TIT	LE		ORS	CITASINA	N	DATÉ
	STR	Oper	ator	City	0.1	Gran	ger	2-27-70
							،	
	F. OP ALARIES/WAGES	F. OPÉRATION A ALARIES/WAGES ELECTR EMED BY ESOM FU!	F. OPERATION AND MAIN ALARIES/WAGES ELECTRICITY EVICO BY ESOM EVICO BY EVICO BY EVICO BY	F. OPERATION AND MAINTENANCE COST ALARIES/WAGES ELECTRICITY CHEMICALS PUED BY TITLE ESON FUIRO 75CI/	F. OPERATION AND MAINTENANCE COST FOR PLANT ALARIES/WAGES ELECTRICITY CHEMICALS MAINTENA EVICO BY TITLE SOM FURD 75C11 TITLE	F. OPERATION AND MAINTENANCE COST FOR PLANT ALARIES WAGES ELECTRICITY CHEMICALS MAINTENANCE F. OPERATION AND MAINTENANCE COST FOR PLANT ALARIES WAGES ELECTRICITY CHEMICALS MAINTENANCE F. OPERATION AND MAINTENANCE COST FOR PLANT ALARIES WAGES ELECTRICITY CHEMICALS MAINTENANCE F. OPERATION AND MAINTENANCE COST FOR PLANT ALARIES WAGES ELECTRICITY CHEMICALS MAINTENANCE F. OPERATION AND MAINTENANCE COST FOR PLANT ALARIES WAGES ELECTRICITY CHEMICALS MAINTENANCE F. OPERATION AND MAINTENANCE COST FOR PLANT ALARIES WAGES ELECTRICITY CHEMICALS MAINTENANCE F. OPERATION AND MAINTENANCE COST FOR PLANT ALARIES WAGES ELECTRICITY CHEMICALS MAINTENANCE F. OPERATION AND MAINTENANCE COST FOR PLANT ALARIES WAGES ELECTRICITY CHEMICALS MAINTENANCE F. OPERATION AND MAINTENANCE COST FOR PLANT ALARIES WAGES ELECTRICITY CHEMICALS MAINTENANCE F. OPERATION AND MAINTENANCE COST FOR PLANT ALARIES WAGES ELECTRICITY CHEMICALS MAINTENANCE F. OPERATION AND MAINTENANCE COST FOR PLANT ALARIES WAGES ELECTRICITY CHEMICALS MAINTENANCE F. OPERATION AND MAINTENANCE COST FOR PLANT ALARIES WAGES ELECTRICITY CHEMICALS MAINTENANCE F. OPERATION AND MAINTENANCE COST FOR PLANT ALARIES WAGES ELECTRICITY CHEMICALS MAINTENANCE F. OPERATION AND MAINTENANCE COST FOR PLANT ALARIES WAGES ELECTRICITY CHEMICALS MAINTENANCE F. OPERATION AND MAINTENANCE COST FOR PLANT ALARIES WAGES ELECTRICITY CHEMICALS MAINTENANCE COST FOR PLANT ALARIES WAGES ELECTRICITY CHEMICALS MAINTENANCE COST FOR PLANT ALARIES WAGES ELECTRICITY CHEMICALS MAINTENANCE COST FOR PLANT ALARIES WAS AL	F. OPÉRATION AND MAINTENANCE COST FOR PLANT ALARIES/WAGES ELECTRICITY CHEMICALS MAINTENANCE OTHER PUED BY TITLE PUED BY TITL	PRIMARY EFFLUENT LIQUOR FINAL RAW SUPERMATANT DIGESTOR RAW EFFLUENT LIQUOR FINAL RAW SUPERMATANT DIGESTOR RAW SUPERMATANT DIGESTOR RAW SUPERMATANT DIGESTOR RAW SUPERMATANT RA

G. HOTATIONS DY CVALUATOR
A. ADDITIONAL HEMARKS (Il remarks refer to a particular item, identify by number)
60-115h C 12 A Pi' C2 7 -3627
2. GUNLRAL COMMENTS ON HOUSEKEEPING AND MAINTENANCE
House Keeping-pool -SAFTEY HAZARD -
mantenance - Poor Railing missing on East side
clairifier - needs to be of grit chamber & parshal flume
House keeping-pool -SAFTEY HAZARD - mantenance - Door RAILING Missing on EAST side clairifier - Needs to be of grit chamber & parshal flume cleaned & Skimmer needs to be repaired. That circuit at studge & sour
3. REQUIREMENTS OF HIGHER AUTHORITY 3A. DOES THE PLANT PROVIDE THE DEGREE OF TREATMENT PRESENTLY REQUIRED BY THE STATE? (If no, explain) YES NO
3B. ARE THERE ANY PENDING ACTIONS (enforcement conferences, change in water quality standards, etc.) THAT WOULD REQUIRE UPGRADING OF TREATMENT BY THIS PLANT? [YES NO (II yes, explain)
3C. NUMBER OF STATE INSPECTIONS OF PRESENT PLANT TO DATE.
4. IS ANY FOLLOW-THRU ACTION REQUIRED TO (1) CORRECT DEFICIENCIES IN THE PLANT OR ITS OPERATION OR (2) RESOLVE INDUSTRIAL WASTE PROBLEMS? (II yes, describe required corrective action) YES NO